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SEQUENCE LISTING

<110> MADDON, Paul J.

DONOVAN, Gerald P.

OLSON, William C.

SCHUELKE, Norbert

GARDNER, Jason

MA, Dangshe

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ggtcaccgtc tcctcagcct ccaccaaggg cccatcggtc ttccccctgg caccctctag 480
c 481

<210> 15

<211> 142

<212> PRT

<213> Homo sapiens

<400> 15

Met	Glu	Leu	Gly	Leu	Arg	Trp	Gly	Phe	Leu	Val	Ala	Leu	Leu	Arg	Gly	1	5	10	15
Val	Gln	Cys	Gln	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Val	Val	Gln	20	25	30	
Pro	Gly	Arg	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Ala	Phe	35	40	45	
Ser	Arg	Tyr	Gly	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	50	55	60	
Glu	Trp	Val	Ala	Val	Ile	Trp	Tyr	Asp	Gly	Ser	Asn	Lys	Tyr	Tyr	Ala	65	70	75	80
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	85	90	95	
Thr	Gln	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	100	105	110	
Tyr	Tyr	Cys	Ala	Arg	Gly	Gly	Asp	Phe	Leu	Tyr	Tyr	Tyr	Tyr	Tyr	Gly	115	120	125	

Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
130 135 140

<210> 16

<211> 463

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 16

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ggatctcacc atgaggggtcc ctgctcagct cctgggactc ctgctgctct ggctcccaga      60
taccagatgt gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga      120
cagagtcacc atcacttgcc gggcgagtca gggcattagc aattatcttag cctgggtatca      180
gcagaaaaca gggaaagtgc ctaagtctct gatctatgaa gcatccactt tgcaatcagg      240
gggtcccatct cgggttcagtg gcggtggatc tgggacagat ttcactctca ccatcagcag      300
cctgcagcct gaagatgttg caacttatta ctgtcaaaat tataacagtg cccattcac      360
tttcggccct gggaccaaaag tggatatcaa acgaactgtg gctgcaccct ctgtcttcat      420
cttcccgcca tctgatgagc agttgaaatc tggaactgct agc                        463
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<210> 17

<211> 127

<212> PRT

<213> Homo sapiens

<400> 17

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Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Trp Leu Pro
1          5          10          15
Asp Thr Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
20        25        30
Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly
35        40        45
Ile Ser Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Thr Gly Lys Val Pro
50        55        60
Lys Phe Leu Ile Tyr Glu Ala Ser Thr Leu Gln Ser Gly Val Pro Ser
65        70        75        80
Arg Phe Ser Gly Gly Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
85        90        95
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Ser Leu Gln Pro Glu Asp Val Ala Thr Tyr Tyr Cys Gln Asn Tyr Asn
100 105 110

Ser Ala Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
115 120 125

<210> 18

<211> 508

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 18
ggatctcacc atgggggtcaa ccgccatcct caccatggag ttggggctgc gctggggttct 60
cctcggttgc cttttaagag gtgtccagtgc tcaggtgcag ctggtggagt ctgggggagg 120
cgtgggtccag cctgggaggt ccctgagact ctctgtgca gcgtctggat tcaccttcag 180
taactatgtc atgcactggg tccgccaggc tccaggcaag gggctggagt ggggtggcaat 240
tatatggtat gatggaagta ataaatacta tgcagactcc gtgaagggcc gattcaccat 300
ctccagagac aattccaaga acacgctgta tctgcaaatag aacagcctga gagccgagga 360
cacggctgtg tattactgtg cgggtggata taactggaac tacgagtacc actactacgg 420
tatggacgtc tggggccaag ggaccacggg caccgtctcc tcagcctcca ccaagggccc 480
atcgggtcttc cccctggcac cctctagc 508

<210> 19

<211> 143

<212> PRT

<213> Homo sapiens

<400> 19

Met Glu Leu Gly Leu Arg Trp Val Leu Leu Val Ala Leu Leu Arg Gly
1 5 10 15
Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
20 25 30
Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45
Ser Asn Tyr Val Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60

Glu	Trp	Val	Ala	Ile	Ile	Trp	Tyr	Asp	Gly	Ser	Asn	Lys	Tyr	Tyr	Ala
65					70					75					80
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn
			85						90					95	
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val
			100					105					110		
Tyr	Tyr	Cys	Ala	Gly	Gly	Tyr	Asn	Trp	Asn	Tyr	Glu	Tyr	His	Tyr	Tyr
		115					120					125			
Gly	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser	
	130					135					140				

<210> 20

<211> 463

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 20

ggatctcacc atgagggtcc ccgctcagct cctggggctc ctgctgctct gtttcccagg	60
tgccagatgt gacatccaga tgaccagtc tccatcctca ctgtctgcat ctgtaggaga	120
cagagtcacc atcacttgct gggcgagtca gggcattacc aattatttag cctgggttca	180
gcagaaacca gggaaagccc ctaagtcctt tatctatgct gcatccagtt tgcaaagtgg	240
ggtcccatca aagttcagcg gcagtggatc tgggacagat ttcagtctca ccatcagcag	300
cctgcagcct gaagattttg caacttatta ctgccaacag tataatagtt acccgatcac	360
cttcggccaa gggacacgac tggagattaa acgaactgtg gctgcaccat ctgtcttcat	420
cttcccgcga tctgatgagc agttgaaatc tggaaactgt agc	463

<210> 21

<211> 127

<212> PRT

<213> Homo sapiens

<400> 21

Met	Arg	Val	Pro	Ala	Gln	Leu	Leu	Gly	Leu	Leu	Leu	Leu	Cys	Phe	Pro
1				5				10						15	
Gly	Ala	Arg	Cys	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	Ser	Leu	Ser
		20					25					30			

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly
 35 40 45
 Ile Thr Asn Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro
 50 55 60
 Lys Ser Leu Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser
 65 70 75 80
 Lys Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ser Leu Thr Ile Ser
 85 90 95
 Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn
 100 105 110
 Ser Tyr Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 115 120 125

<210> 22

<211> 490

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 22

ggatctcacc atggagttgg gacttagctg ggttttcctc gttgctcttt taagaggtgt 60
 ccagtgtcag gtccagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtccct 120
 gagactctcc tgtgcagcgt ctggattcac cttcagtagc tatggcatgc actgggtccg 180
 ccaggctcca ggcaaggggc tggactgggt ggcaattatt tggcatgatg gaagtaataa 240
 atactatgca gactccgtga agggccgatt caccatctcc agagacaatt ccaagaagac 300
 gctgtacctg caaatgaaca gtttgagagc cgaggacacg gctgtgtatt actgtgcgag 360
 agcttggggc tatgactacg gtgactatga atactacttc ggtatggacg tctggggcca 420
 agggaccacg gtcaccgtct cctcagcctc caccaagggc ccatcggtct tccccctggc 480
 accctctagc 490

<210> 23

<211> 145

<212> PRT

<213> Homo sapiens

<400> 23

Met Glu Leu Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly
 1 5 10 15
 Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
 20 25 30
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Asp Trp Val Ala Ile Ile Trp His Asp Gly Ser Asn Lys Tyr Tyr Ala
 65 70 75 80
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Lys
 85 90 95
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110
 Tyr Tyr Cys Ala Arg Ala Trp Ala Tyr Asp Tyr Gly Asp Tyr Glu Tyr
 115 120 125
 Tyr Phe Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser
 130 135 140

Ser
 145

<210> 24

<211> 463

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 24

ggatctcacc atgagggtcc ctgctcagct cctggggctc ctgctgctct gtttcccagg 60
 tgccagatgt gacatccaga tgaccagtc tccatcctca ctgtctgcat ctgtaggaga 120
 cagagtcacc atcacttgct gggcgagtca gggcattagc cattatttag cctgggttca 180
 gcagaaacca gggaaagccc ctaagtcctt gatctatgct gcatccagtt tgcaaagtgg 240
 ggtcccatca aagttcagcg gcagtggatc tgggacagat ttactctca ccatcagcag 300
 cctacagcct gaagattttg caacttatta ctgccaacag tataatagtt tcccgtcac 360
 tttcggcgga gggaccaagg tggagatcaa acgaactgtg gctgcacat ctgtcttcac 420
 cttcccgcca tctgatgagc agttgaaatc tggaactgct agc 463

<210> 25

<211> 127

<212> PRT

<213> Homo sapiens

<400> 25

Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Cys Phe Pro
1 5 10 15

Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser
20 25 30

Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly
35 40 45

Ile Ser His Tyr Leu Ala Trp Phe Gln Gln Lys Pro Gly Lys Ala Pro
50 55 60

Lys Ser Leu Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser
65 70 75 80

Lys Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser
85 90 95

Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Tyr Asn
100 105 110

Ser Phe Pro Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
115 120 125

<210> 26

<211> 469

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 26

ggatcccacc atgggggtcaa ccgtcatcct cgccctcctc ctggctgttc tccaaggagt 60

ctgtgccgag gtgcagctgg tgcagtctgg agcagaggtg aaaaagcccg gggagtctct 120

gaagatctcc tgtaagggtt ctggatacag ctttaccagt tactggatcg gctgggtgcg 180

ccagatgccc gggaaaggcc tggagtggat ggggatcatc taccctgggtg actctgatac 240

cagatacagc ccgtccttcc aaggccaggt caccatctca gccgacaagt ccatcagcac 300

cgctacctg cagtggagca gcctgaaggc ctgggacacc gccatgtatt actgtgagag 360

acggatggca gcagctggcc cctttgacta ctggggccag ggaaccctgg tcaccgtctc 420
ctcagcctcc accaagggcc catcggtctt cccctggca ccctctagc 469

<210> 27

<211> 138

<212> PRT

<213> Homo sapiens

<400> 27

Met	Gly	Ser	Thr	Val	Ile	Leu	Ala	Leu	Leu	Leu	Ala	Val	Leu	Gln	Gly
1				5				10						15	
Val	Cys	Ala	Glu	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys
			20					25					30		
Pro	Gly	Glu	Ser	Leu	Lys	Ile	Ser	Cys	Lys	Gly	Ser	Gly	Tyr	Ser	Phe
			35				40					45			
Thr	Ser	Tyr	Trp	Ile	Gly	Trp	Val	Arg	Gln	Met	Pro	Gly	Lys	Gly	Leu
			50			55					60				
Glu	Trp	Met	Gly	Ile	Ile	Tyr	Pro	Gly	Asp	Ser	Asp	Thr	Arg	Tyr	Ser
65					70					75					80
Pro	Ser	Phe	Gln	Gly	Gln	Val	Thr	Ile	Ser	Ala	Asp	Lys	Ser	Ile	Ser
			85						90					95	
Thr	Ala	Tyr	Leu	Gln	Trp	Ser	Ser	Leu	Lys	Ala	Ser	Asp	Thr	Ala	Met
			100					105					110		
Tyr	Tyr	Cys	Ala	Arg	Arg	Met	Ala	Ala	Ala	Gly	Pro	Phe	Asp	Tyr	Trp
		115					120					125			
Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser						
	130					135									

<210> 28

<211> 466

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 28

ggatctcacc atgaggggtcc ccgctcagct tctcttcctt ctgctactct ggctcccaga 60
taccactgga ggaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga 120
aagagccacc ctctcctgca ggaccagtca gagtattggc tggaacttag cctggtacca 180

acagaaacct ggccaggctc ccaggctcct catctatggt gcattctcca ggaccactgg 240
 tatcccagcc aggttcagtg gcagtgggtc tgggacagag ttcactctca ccatcagcag 300
 cctgcagtct gaagattctg cagtttatta ctgtcagcat tatgataact ggcccatgtg 360
 cagttttggc caggggaccg agctggagat caaacgaact gtggctgcac catctgtctt 420
 catcttcccg ccatctgatg agcagttgaa atctggaact gctagc 466

<210> 29

<211> 128

<212> PRT

<213> Homo sapiens

<400> 29

Met	Arg	Val	Pro	Ala	Gln	Leu	Leu	Phe	Leu	Leu	Leu	Leu	Trp	Leu	Pro	
1				5					10					15		
Asp	Thr	Thr	Gly	Gly	Ile	Val	Met	Thr	Gln	Ser	Pro	Ala	Thr	Leu	Ser	
			20					25					30			
Val	Ser	Pro	Gly	Glu	Arg	Ala	Thr	Leu	Ser	Cys	Arg	Thr	Ser	Gln	Ser	
		35					40					45				
Ile	Gly	Trp	Asn	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ala	Pro	
	50					55					60					
Arg	Leu	Leu	Ile	Tyr	Gly	Ala	Ser	Ser	Arg	Thr	Thr	Gly	Ile	Pro	Ala	
65				70					75					80		
Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Glu	Phe	Thr	Leu	Thr	Ile	Ser	
			85					90						95		
Ser	Leu	Gln	Ser	Glu	Asp	Ser	Ala	Val	Tyr	Tyr	Cys	Gln	His	Tyr	Asp	
		100					105						110			
Asn	Trp	Pro	Met	Cys	Ser	Phe	Gly	Gln	Gly	Thr	Glu	Leu	Glu	Ile	Lys	
		115					120					125				

<210> 30

<211> 487

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 30

ggatctcacc atggagtttg ggctgtgctg gattttcctc gttgctcttt taagaggtgt 60

ccagtgtcag gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg ggaggtccct 120
gagactctcc tgtgcagcct ctggattcac cttcattagc tatggcatgc actgggtccg 180
ccaggctcca ggcaaggggc tggagtgggt ggcagttata tcatatgatg gaagtaataa 240
atactatgca gactccgtga agggccgatt caccatctcc agagacaatt ccaagaacac 300
gctgtatctg caaatgaaca gcctgagagc tgaggacacg gctgtgtatt actgtgcgag 360
agtattagtg ggagctttat attattataa ctactacggg atggacgtct ggggccaaagg 420
gaccacggtc accgtctcct cagcctccac caagggccca tcggtcttcc ccctggcacc 480
ctctagc 487

<210> 31

<211> 144

<212> PRT

<213> Homo sapiens

<400> 31

Met Glu Phe Gly Leu Cys Trp Ile Phe Leu Val Ala Leu Leu Arg Gly
1 5 10 15
Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
20 25 30
Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35 40 45
Ile Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60
Glu Trp Val Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala
65 70 75 80
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85 90 95
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100 105 110
Tyr Tyr Cys Ala Arg Val Leu Val Gly Ala Leu Tyr Tyr Tyr Asn Tyr
115 120 125
Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
130 135 140

<210> 32

<211> 478

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 32

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ggatctcacc atgagggtcc ctgctcagct cctggggctg ctaatgctct ggatacctgg      60
atccagtgc  gatattgtga tgaccacagac tccactctct ctgtccgtca cccctggaca      120
gccggcctcc atctcctgca agtctagtca gagcctcctg catagtgatg gaaagacctt      180
tttgtattgg tatctgcaga agccaggcca gcctccacag ctctgatct atgaggtttc      240
caaccggttc tctggagtgc cagatagggt cagtggcagc gggtcaggga cagatttcac      300
actgaaaatc agccgggtgg aggctgagga tgttgggctt tattactgca tgcaaagtat      360
acagcttccg ctcactttcg gcggaggggac caaggtggag atcaaacgaa ctgtgggctgc      420
accatctgtc ttcattcttc cgccatctga tgagcagttg aaatctggaa ctgctagc      478

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<210> 33

<211> 132

<212> PRT

<213> Homo sapiens

<400> 33

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Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Ile Pro
1          5          10          15
Gly Ser Ser Ala Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser
          20          25          30
Val Thr Pro Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser
          35          40          45
Leu Leu His Ser Asp Gly Lys Thr Phe Leu Tyr Trp Tyr Leu Gln Lys
          50          55          60
Pro Gly Gln Pro Pro Gln Leu Leu Ile Tyr Glu Val Ser Asn Arg Phe
65          70          75          80
Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
          85          90          95
Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Leu Tyr Tyr
          100          105          110
Cys Met Gln Ser Ile Gln Leu Pro Leu Thr Phe Gly Gly Gly Thr Lys
          115          120          125
Val Glu Ile Lys

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130

<210> 34

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 34

gaagatctca ccatg

15

<210> 35

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 35

aactagctag cagttccaga tttcaactgc tcatcagat

39

<210> 36

<211> 15

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 36

gaagatctca ccatg

15

<210> 37

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 37

gctctagagg gtgccagggg gaagaccgat

30

<210> 38

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<400> 38

Ser Ala Thr Gly Ser Lys Leu Gln Glu Asp Ser
1 5 10

<210> 39

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Peptide

<400> 39

Arg Ser Pro Ala Leu Pro Phe Val Ser
1 5